

Some (“new” things from the Cavity) and results for the TPOL analysis

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task force meeting
28th Oct. 2008

Another set of jobs for syst studies have been finished by Gang and are being analyzed by Christian. Marie is also doing comparison study between Gang's ntuples with hers.

The idea of Christian is that we may be able to choose the best option for the central value with this study. If so, we can proceed once more on all the data, which would probably take a month.

Few things for the TPOL data
analysis
Focus/IP/spot determination

IP determination

4 algo at the moment: (in specific E-bin for IP)

std

$:= y(\text{calculated @ rms} + \langle \eta \rangle) - y(\text{calculated @ } -\text{rms} + \langle \eta \rangle)$

my := std w/o centering

$:= y(\text{calculated @ rms} + 0.5) - y(\text{calculated @ } -\text{rms} + 0.5)$

my2 := separately consider up/down channels and use same math as "my"

$:= y(\text{calculated @ rms}(\text{up} + \text{down}) + 0.5) - y(\text{calculated @ } -\text{rms}(\text{up} + \text{down}) + 0.5)$

my3 := separately consider up/down channels use "distance" of maxima

$:= y(\text{calculated @ max}(\text{up}) - \text{max}(\text{down}))$

focus/spot determination

4 algo at the moment: (in specific E-bin for spot/focus)

std

$:=y(\text{calculated @ rms}/\langle\eta\rangle)$

foc_foc

$:=y(\text{calculated @ rms}/\langle\eta\rangle \text{ restricted range})$

ud:=separately consider up/down channels and use same math as "my"

$:=y(\text{calculated @ rms}/\langle\eta\rangle (\text{up-down channels}))$

max:=separately consider up/down channels use maxima to find eta-ranges where to calculate the quantities

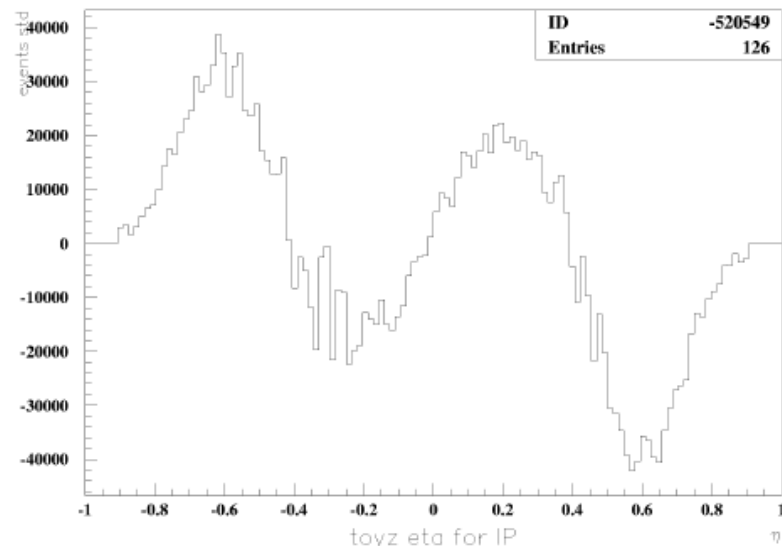
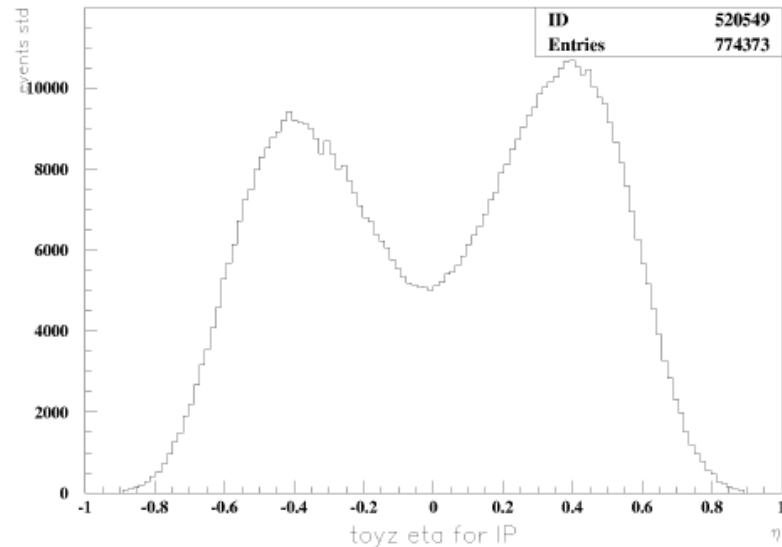
$:=y(\text{calculated @ "rms}/\langle\eta\rangle" (\text{around position of maxima}))$

Focus/IP spot determination (2)

5th algo:
use the derivative of the
spectrum (as the place where
the max sits is spacial
resolution independent)

Any other idea

found "features" in my
version of Blanka's code
(my "improvements", grrr)



TPOL- IP distance (data)

4 algo at the moment:

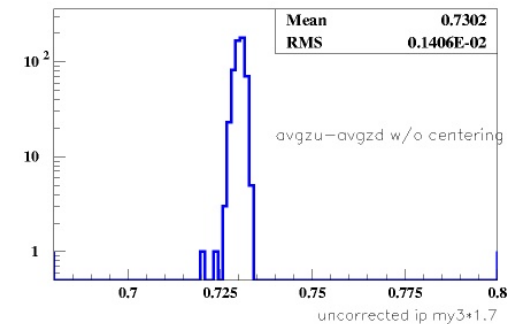
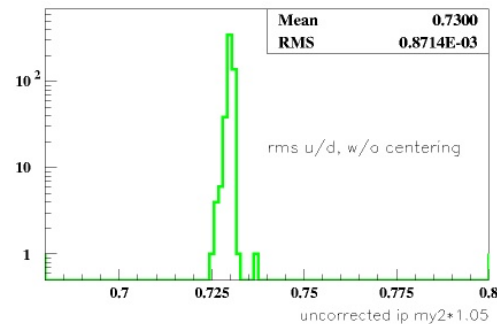
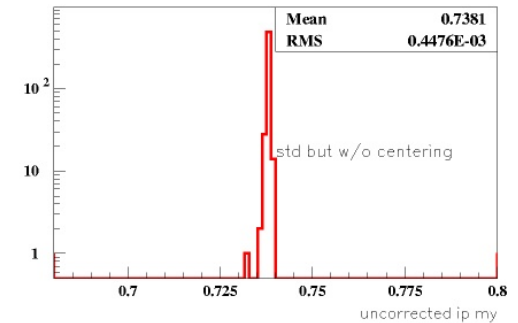
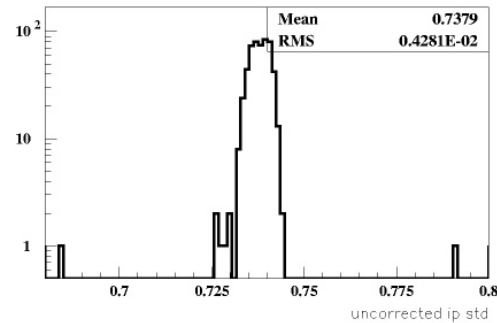
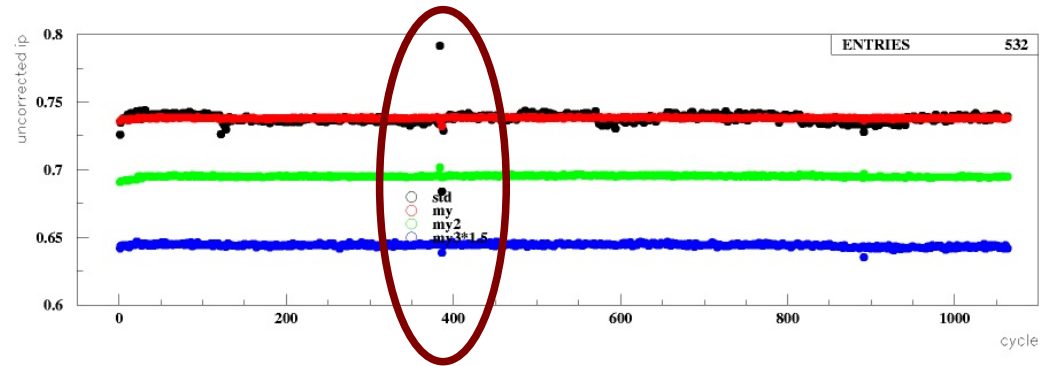
std

my=std w/o centering

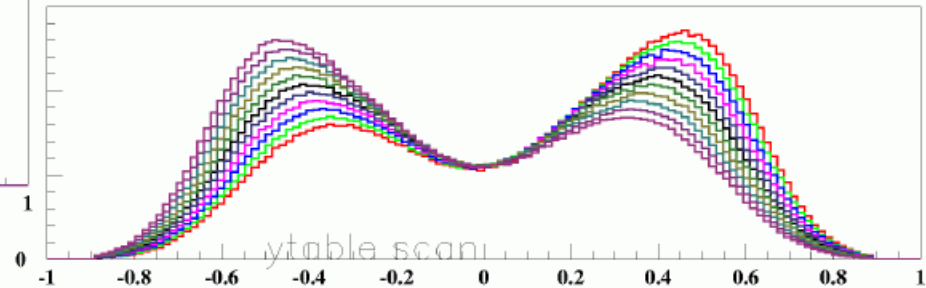
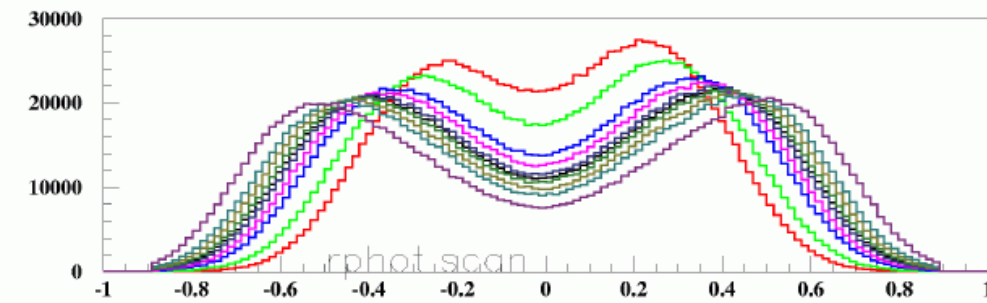
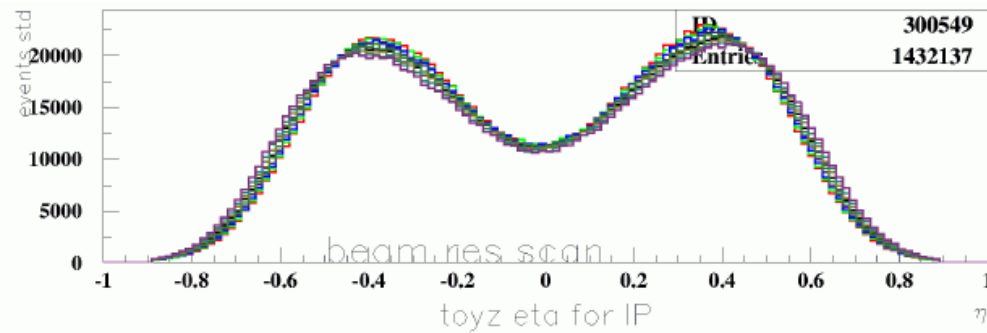
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my3=separately consider
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"distance" of maxima

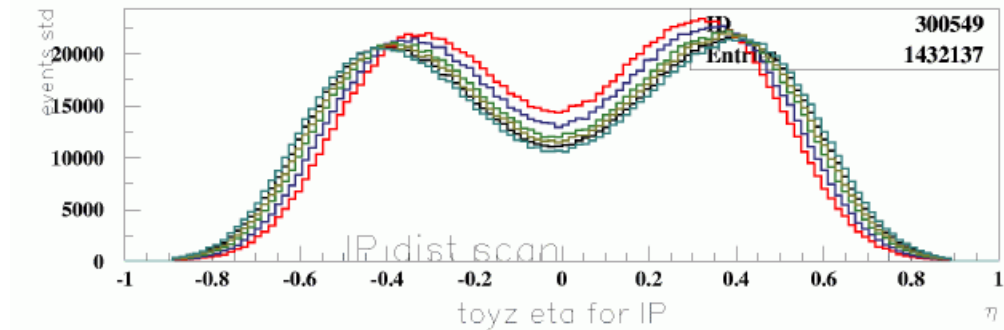
eliminate bkg subtraction?



TPOL- IP distance (Blanka's MC)

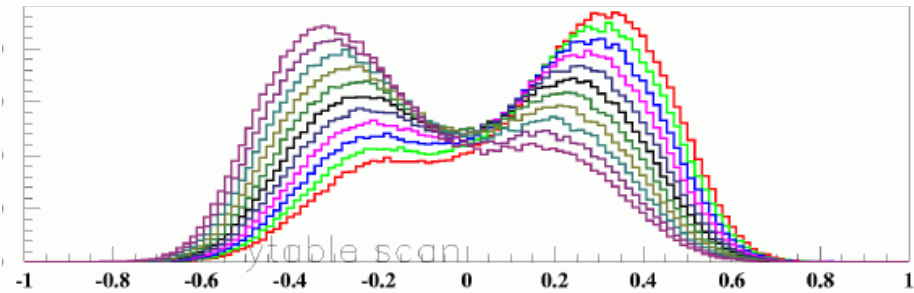
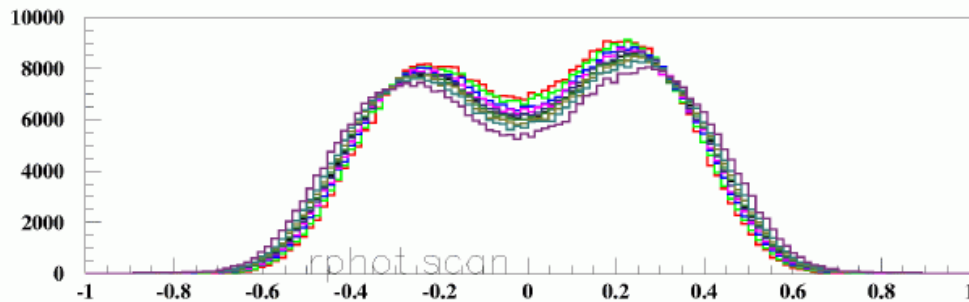
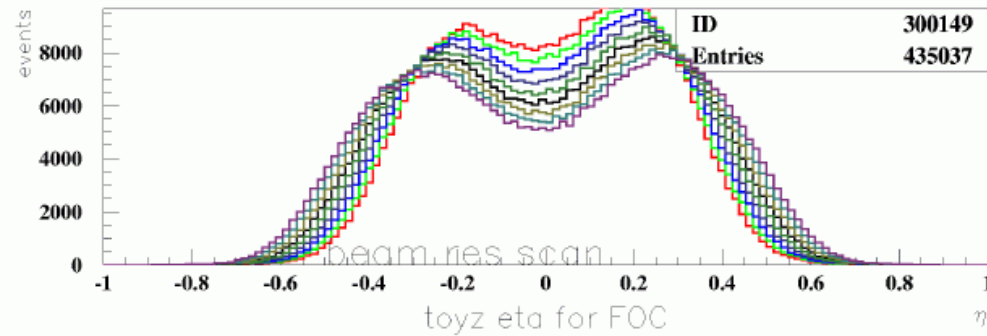


IP- energy bin

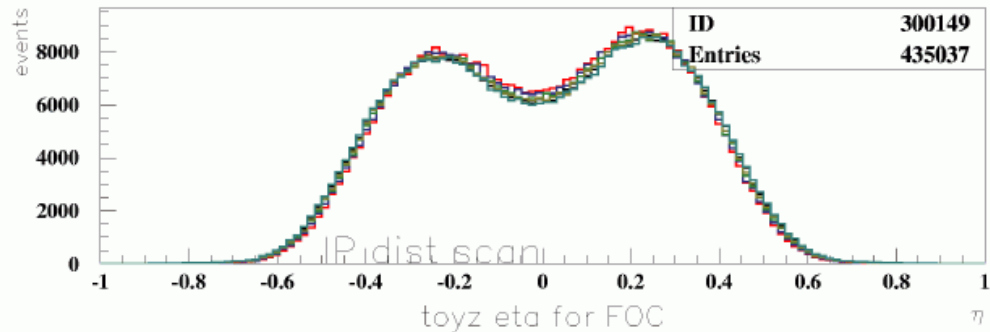


TPOL- focus (Blanka's MC)

Reasonable to forget about bkg subtraction
and reduce eta- range

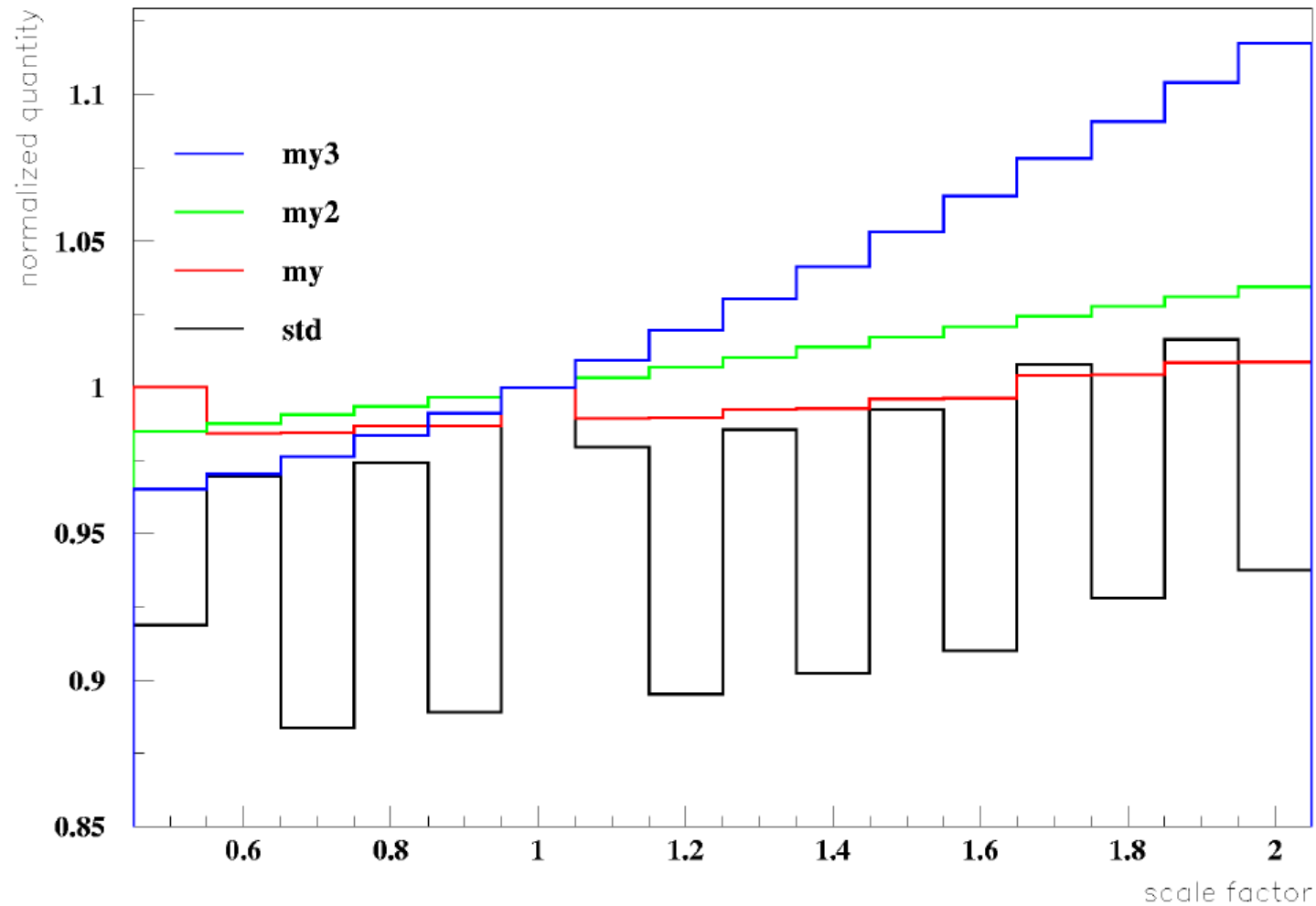


focus- energy bin



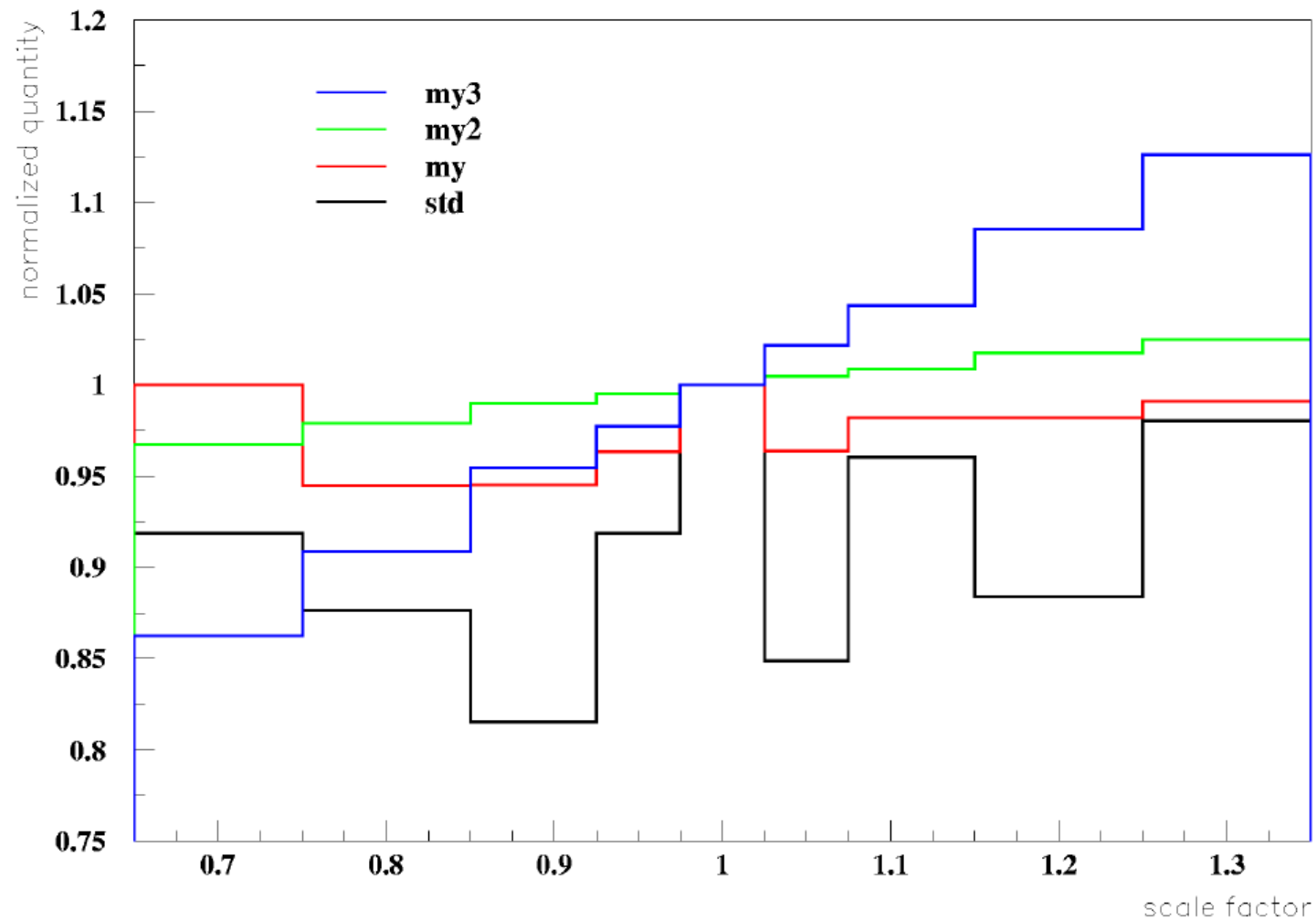
TPOL- IP distance (Blanka's MC)

radius γ scan



TPOL- IP distance (Blanka's MC)

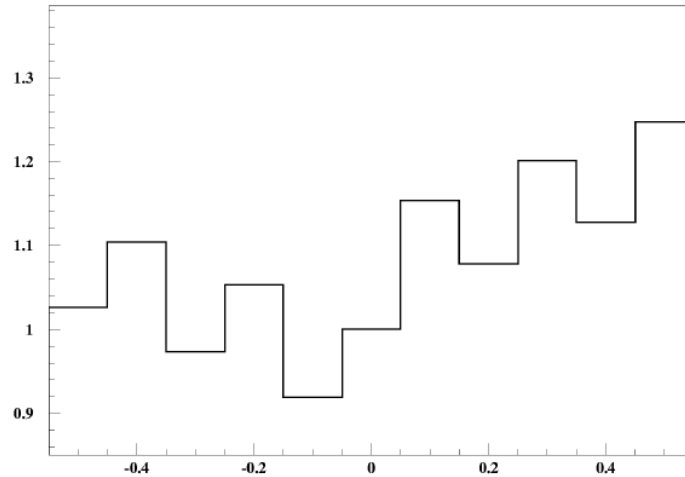
IP dist scan



TPOL- IP distance (Blanka's MC)

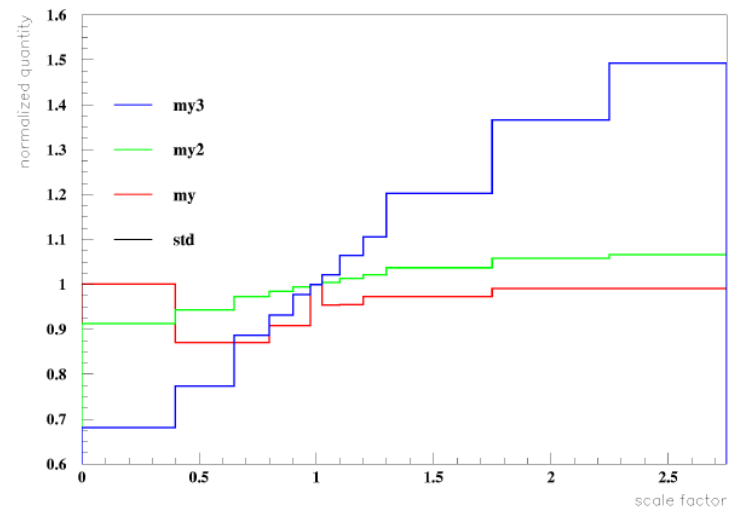
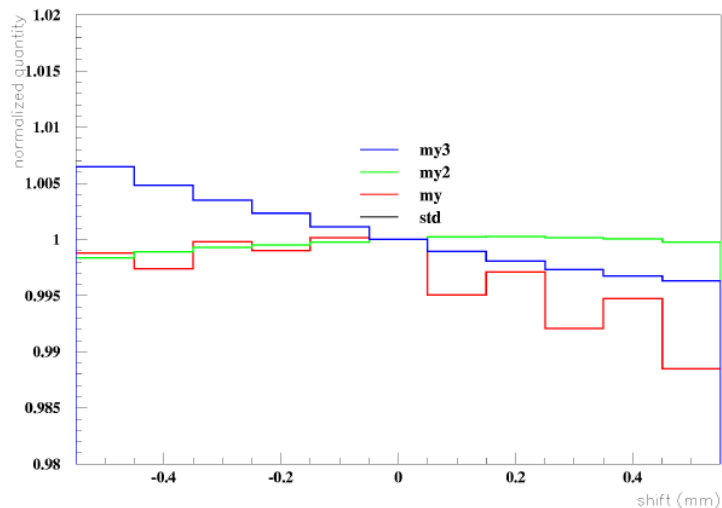
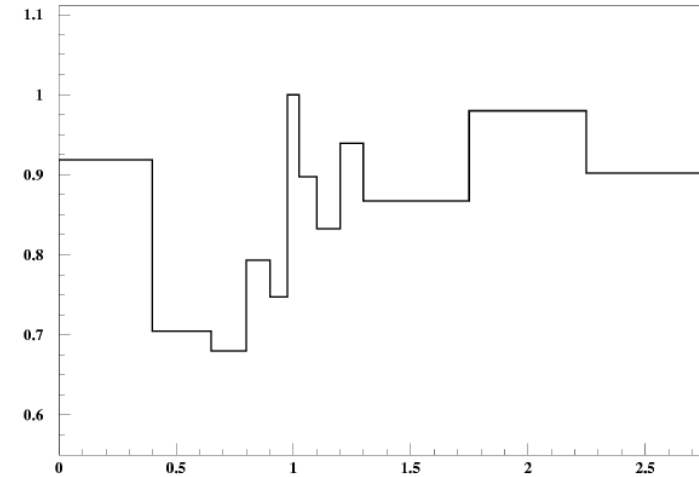
ytable scan

2008/10/27 17:2



ybeam divergence

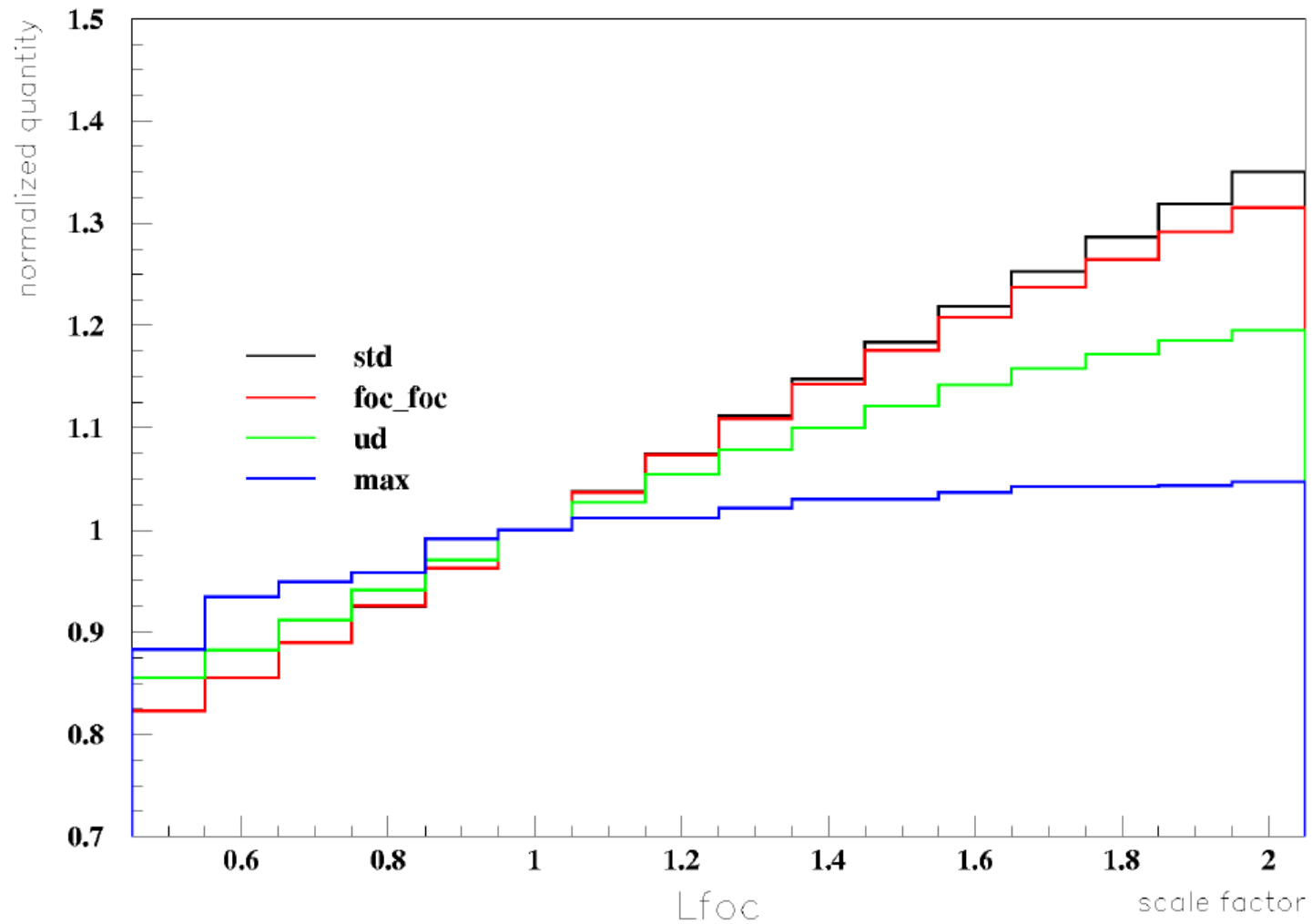
2008/10/27 17:2



TPOL- focus (Blanka's MC)

2008/10/27 17.1

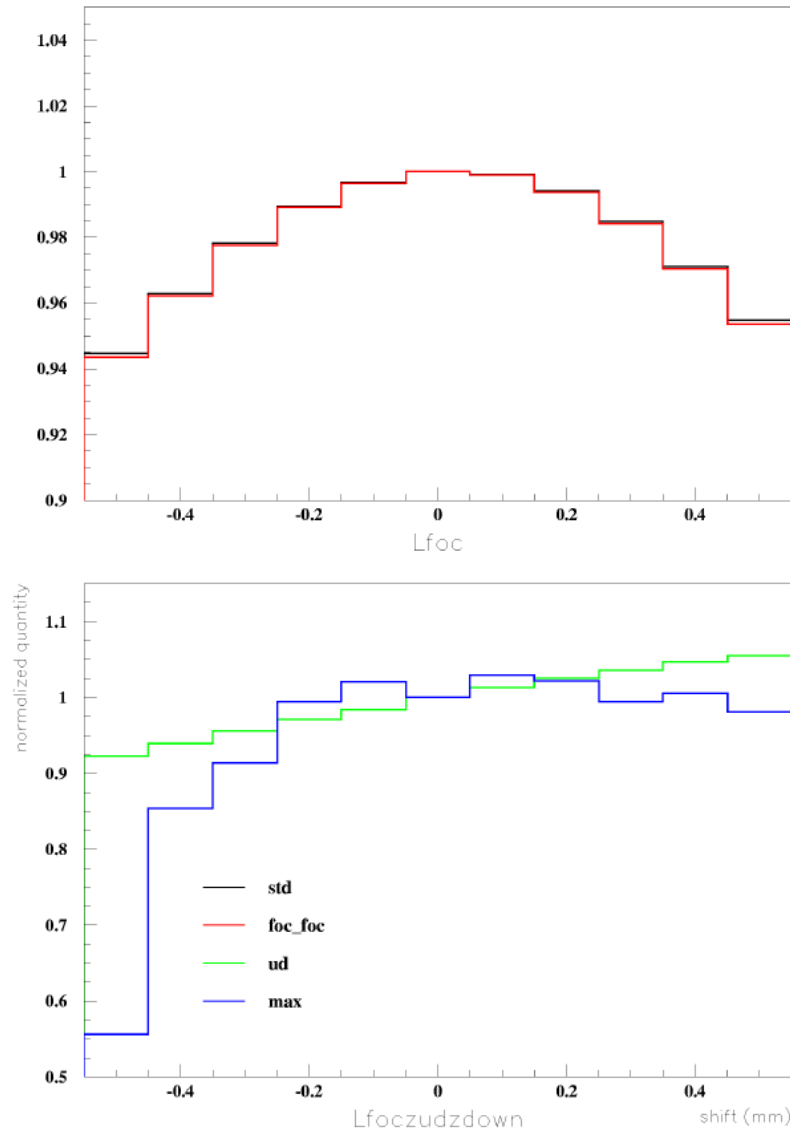
radius γ scan



TPOL- focus (Blanka's MC)

ytable scan

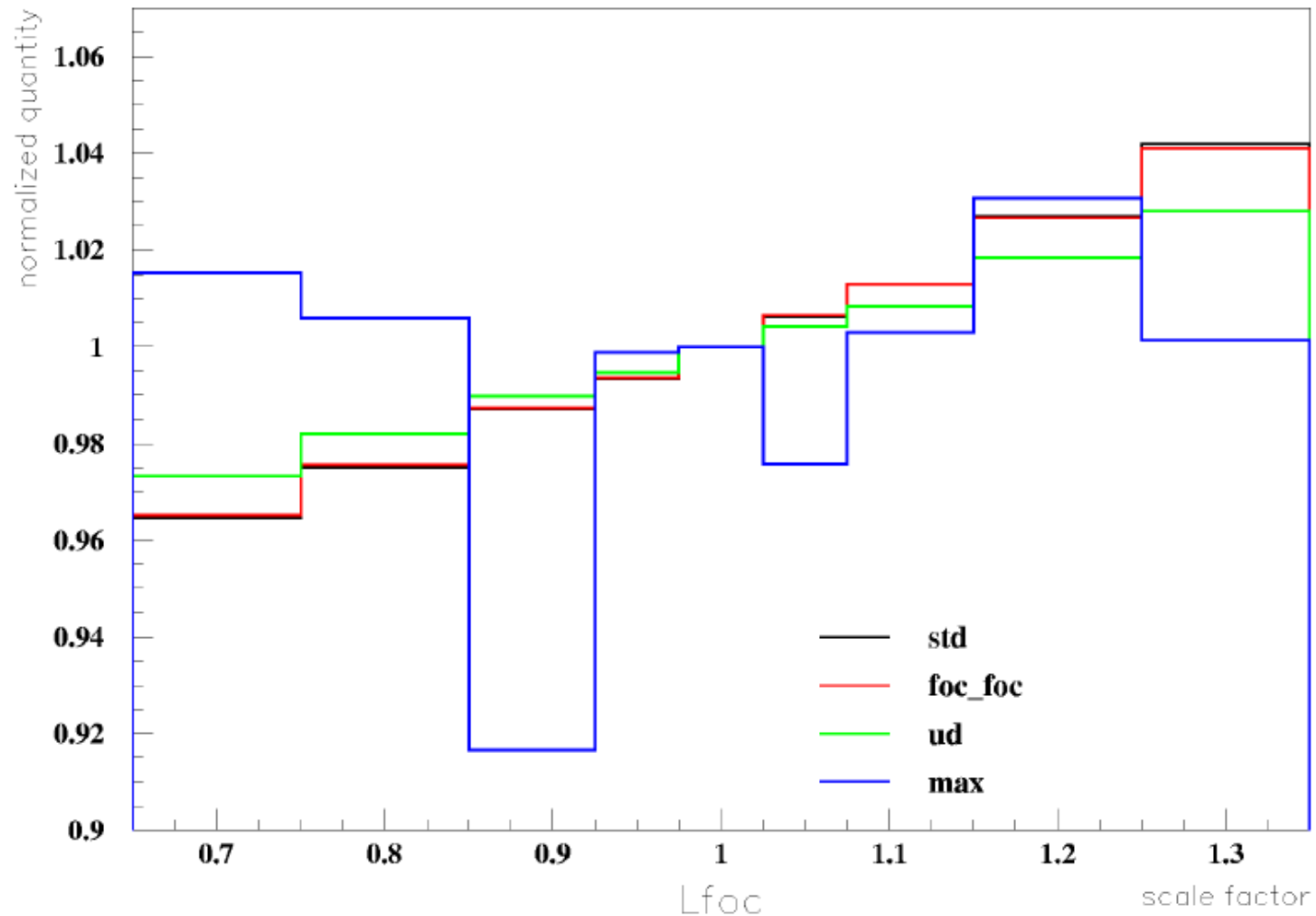
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TPOL- focus (Blanka's MC)

IP dist scan

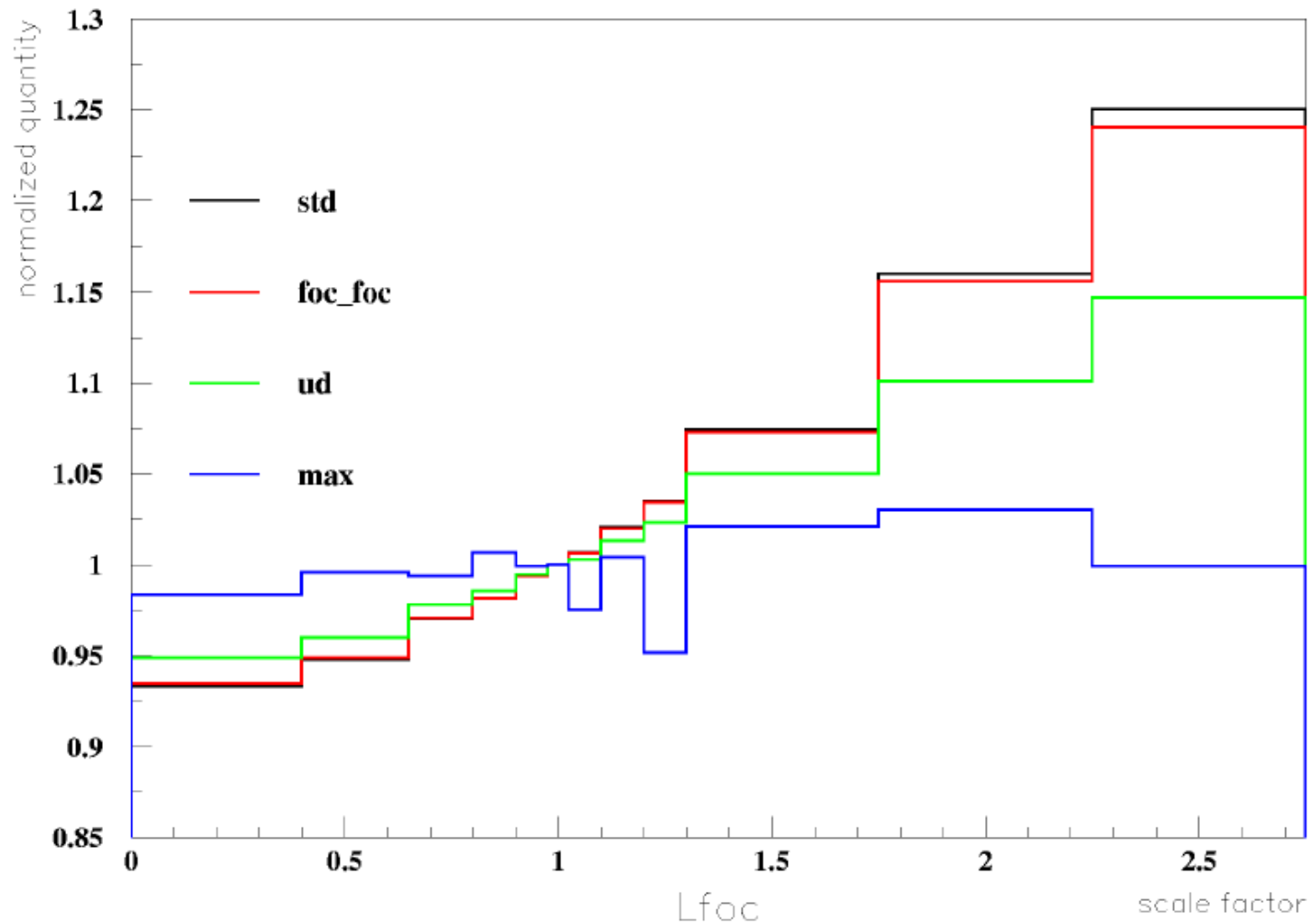
2008/10/27 17.4



TPOL- focus (Blanka's MC)

ybeam divergence

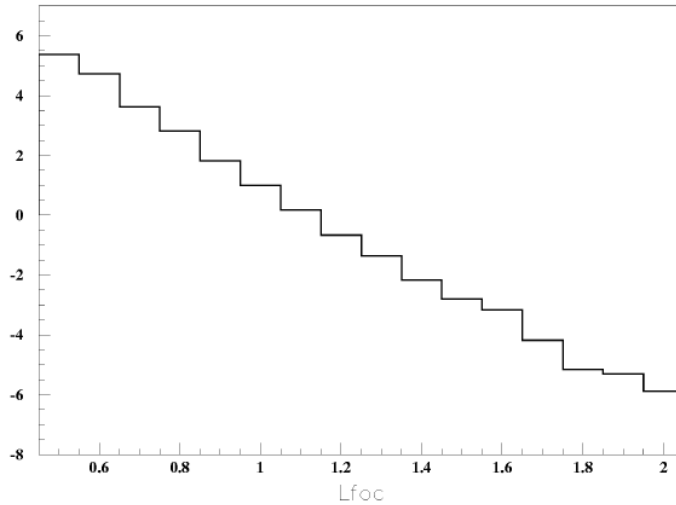
2008/10/27 17:4



TPOL- spot (Blanka's MC)

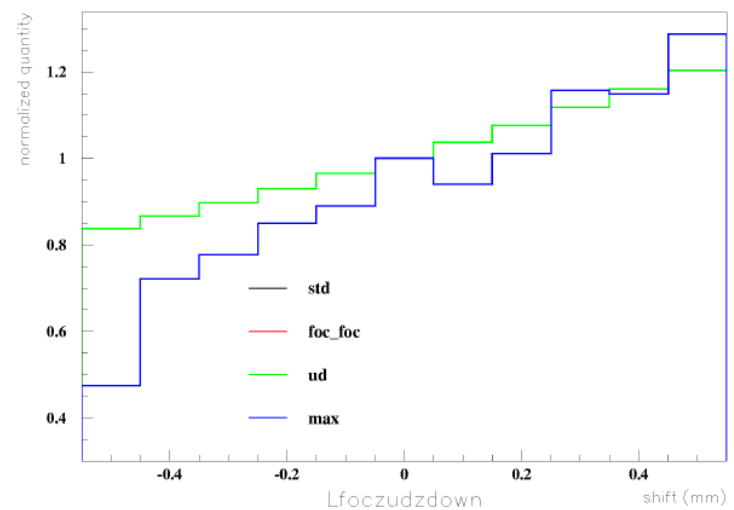
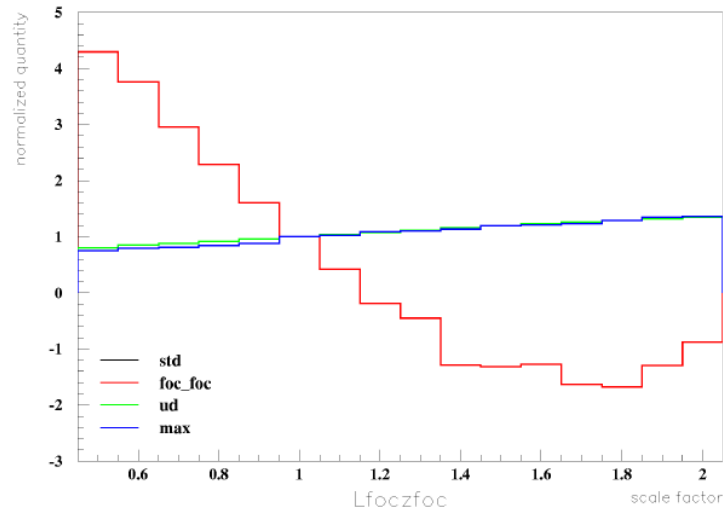
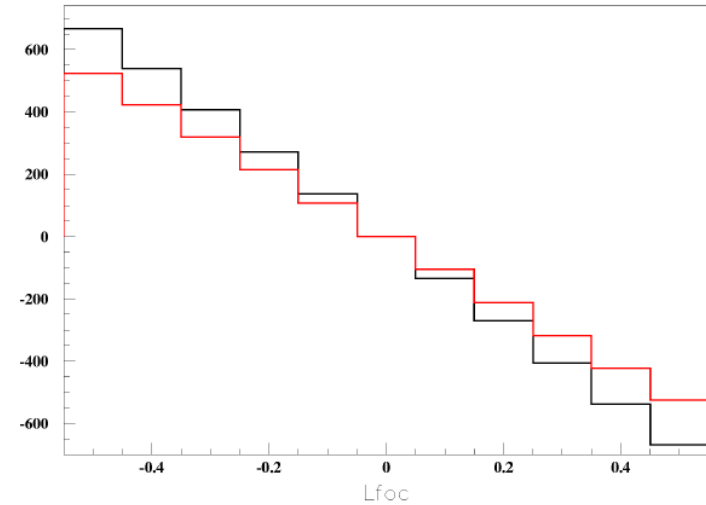
radius γ scan

2008/10/27 17.2



ytable scan

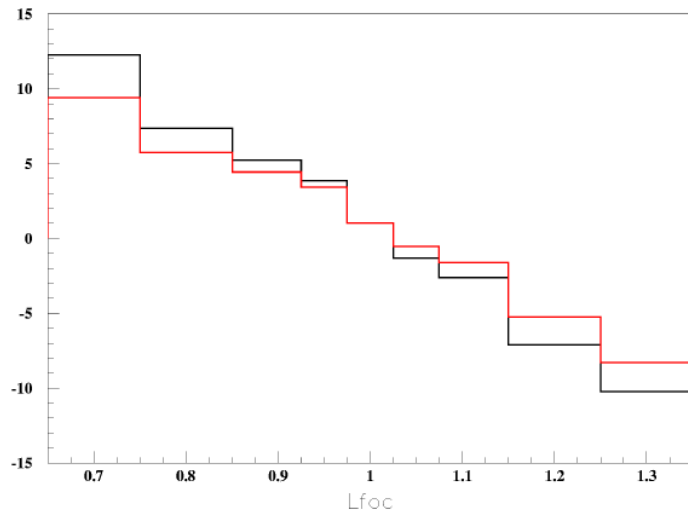
2008/10/27 17.2



TPOL- spot (Blanka's MC)

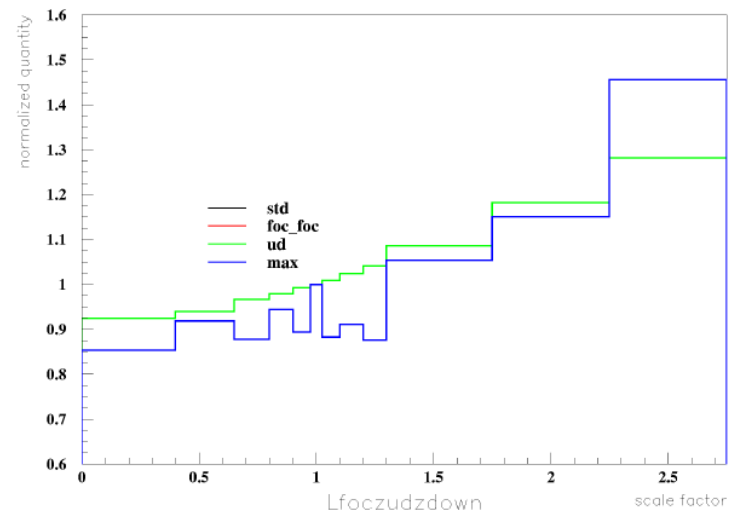
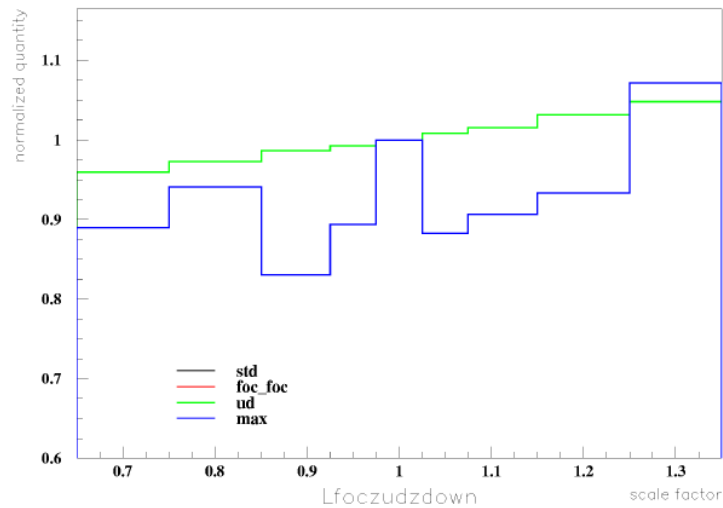
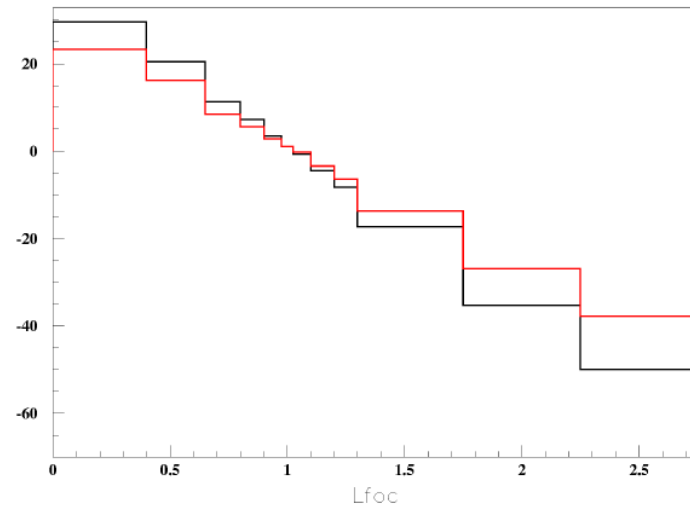
IP dist scan

2008/10/27 17:1



ybeam divergence

2008/10/27 17:1



TPOL- focus (data)

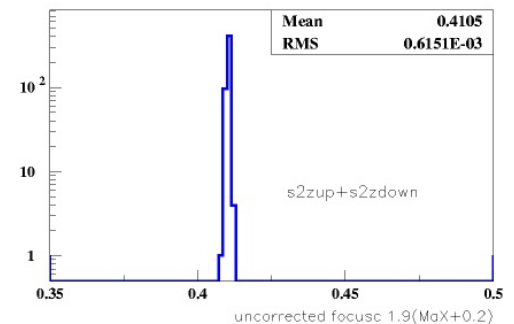
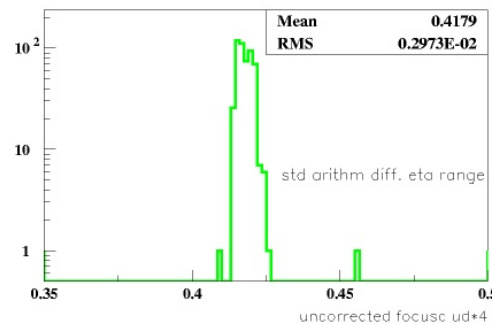
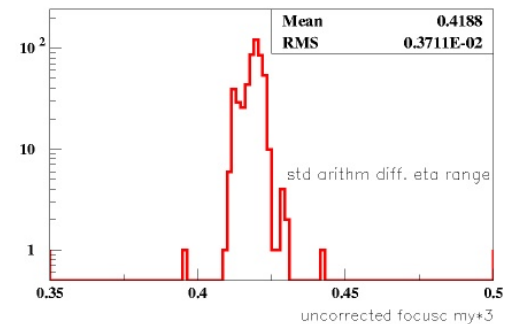
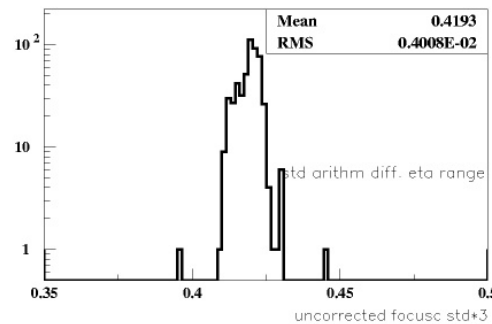
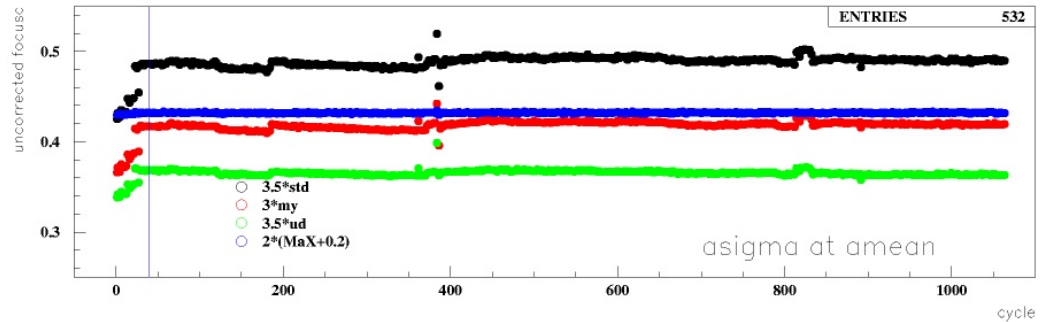
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TPOL- spot (data)

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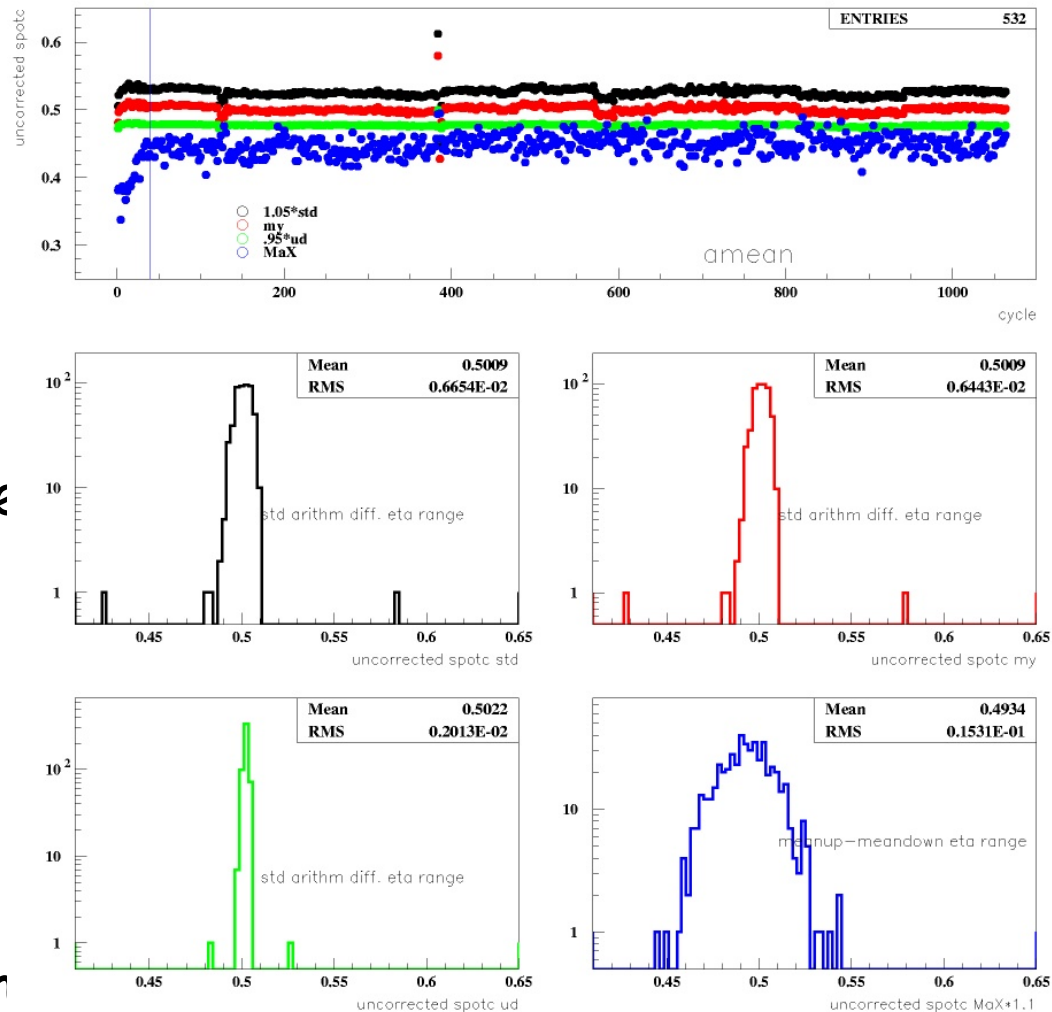
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eliminate bkg subtraction



What next

4 algo at the moment:

5th algo: use derivate of spectrum

do a bit of tune up,
some more "statistic" evaluation (with MC and data),
decide which is best for what,
try "something similar" as an estimator of the
"energy asymmetry"= $\langle \eta \rangle_L - \langle \eta \rangle_R$